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6. The Socio-Economic Characteristics of the Household

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6

The Socio-Economic Characteristics of the Household

So far we have examined income inequality from such aspects as whether an area is rural or urban, the region, and the source of income. In this chapter we will examine it from another aspect, that is, the socio-economic characteristics of the household.

We will also take up an important issue, namely, what kind of difference will be brought about if per capita household income is used instead of household income in making our analysis.

The *Report of the 1981 Socio-Economic Survey* (SES 1981), which will be mainly used in this chapter, collected income data concerning the socio-economic characteristics of the household. The socio-economic characteristics of the household taken up in this chapter are as follows: (1) household size, (2) number of children, (3) number of earners, (4) number of income receivers, (5) age, (6) education, and (7) socio-economic class.

Household Size

In the previous chapters we have used household income as our income concept. As I mentioned before, this is in order to make comparisons with the data of the 1960s, where the income concept used is household income and not per capita household income. But it has been pointed out that household income is not as desirable as per capita household income because the former does not eliminate the effect of the household size.[1] For example, even though household income may be the same, a smaller household will attain a higher welfare level than a larger household because the larger household has to share the same amount of income by a larger number of household members. In this sense per capita household income is better than household income for a welfare comparison of house-

hold members. Per capita household income by itself, however, is not enough because it does not take the number of children into consideration. A smaller amount of income may be enough for children to attain the same welfare level as an adult, thus children must be counted on an adult-equivalent scale. This adult-equivalent income is still better than per capita household income. In this section we will examine this point.

The tendency for the average household size to be larger for the higher income class can be seen from Table 6–1, which shows the average household size by decile group. For example, for the whole kingdom the average household size increased gradually from 3.1 persons per household at the bottom decile to 5.1 persons at the top decile. This pattern can be observed for each community type. This implies that a higher income level is attained partly by a larger number of earners, which corresponds to a larger household size, and that the income gap would be smaller in terms of per capita income than in terms of household income.[2] Household size alone, however, cannot explain the income gap between decile groups because the average household income of the top decile is more than twenty times that of the bottom decile while the average household size of the top decile is only two times that of the bottom decile.

The difference between community types is that the average household size is larger for rural areas. As a whole the average size is 4.1, 4.2, and 4.6 persons for municipal areas, sanitary districts, and villages, respectively. Since the average household income in rural areas is lower than

Table 6–1
Average Household Size by Decile Group, 1981 (persons)

Decile Group	Whole Kingdom	Areas		
		Municipal Areas	Sanitary Districts	Villages
Bottom	3.1	2.4	2.9	3.1
2nd	3.8	3.0	3.7	3.7
3rd	4.2	3.5	3.8	4.3
4th	4.6	3.9	4.0	4.6
5th	4.6	3.9	4.4	4.8
6th	4.7	4.3	4.2	4.9
7th	4.8	4.7	4.1	5.1
8th	4.8	4.9	4.9	5.2
9th	5.0	5.0	5.0	5.2
Top	5.1	5.7	5.2	5.5
Average	4.5	4.1	4.2	4.6

Source: Estimated from data tape of SES 1981.

in urban areas, the disparity between areas in terms of per capita household income would be bigger than in terms of household income. In other words, in villages the household size tends to become bigger in order to raise the number of earners and therefore household income. This may be interpreted as follows. Low productivity in villages is compensated by a larger number of earners which increases the household size. However, this may also be interpreted in a different way. This low productivity is brought about by the large household size and the small marginal productivity.

Even by decile group, the average household size is larger in rural areas than in urban areas, except for the top decile where the average size in municipal areas is 5.7 persons, which is larger than the average size of 5.5 persons in villages.[3]

The small household size at the bottom decile in municipal areas is largely due to one-person households. What is characteristic of municipal areas is the large share of one-person households. As Figure 6–1 shows, the proportion of one-person households is as high as 13 per cent in municipal areas, while it is only 6 per cent in villages. These one-person households tend to be poor, and nearly one-third of one-person households belong to

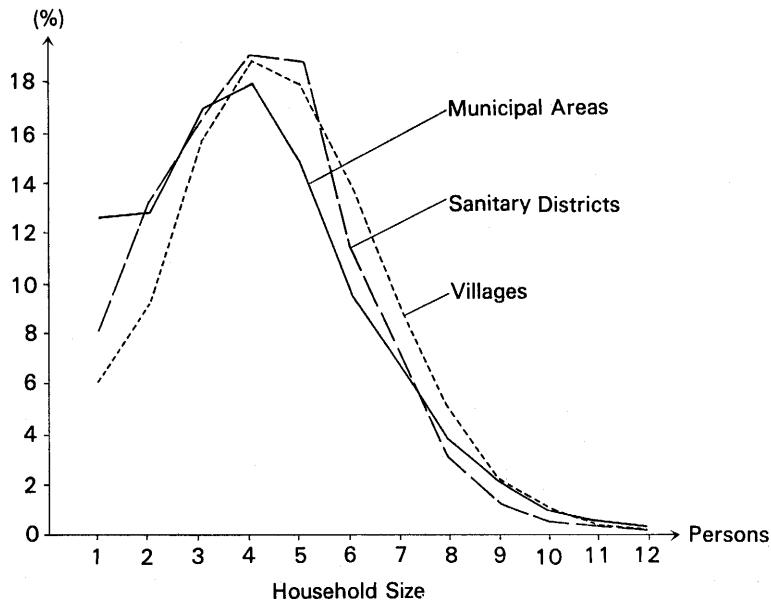

Figure 6–1
Distribution of Households by Size, 1981
Source: Estimated from data tape of SES 1981.

the bottom decile. Reflecting the large proportion of one-person households in municipal areas, one-person households account for about half of the bottom decile in municipal areas, while accounting for only one-fourth of the same bottom decile in villages.

On the other hand, the percentage of large households of more than nine persons in municipal areas is as high as in villages (see Figure 6–1). These households tend to belong to the higher income class and raises the average household size of the top decile in municipal areas to a level even higher than in villages.

These facts mean that in municipal areas the difference in the average household size between decile groups is larger than in villages. The average household size increases from the 2.4 persons of the bottom decile to the 5.7 persons of the top decile in municipal areas while it increases from 3.1 persons to 5.5 persons in villages. The difference in the average household size between the bottom and top decile is 3.3 persons in municipal areas and only 2.4 persons in villages. This implies that in municipal areas the household size plays a more important role in explaining income inequality than in rural areas or, in other words, that the difference in household size makes income distribution in urban areas more unequal. This can be confirmed by the decomposition of the Theil index (see Table 6–2).[4] The between-component of the Theil index which measures income inequality between different household sizes is 0.056 and accounts for 18 per cent of income inequality in municipal areas. Compared with the decomposition between region or area (see Tables 3–10 and 4–5), this level of the between-component can be said to be fairly large. In contrast with this, the between-component of the rural areas is 0.017 and accounts for only 6 per cent. Thus household size cannot be considered to be an important factor of income inequality in rural areas.

The reason household size is not an important factor of income inequality in rural areas may be that an additional member to the household cannot

Table 6–2
Decomposition of Theil Index by Household Size, 1981

	Whole Kingdom	Municipal Areas	Rural Areas
Theil index	0.335	0.308	0.290
Within-component	0.313 (93.6)	0.252 (81.8)	0.273 (94.1)
Between-component	0.021 (6.3)	0.056 (18.2)	0.017 (5.9)

Source: The author's estimate.
Note: Figures in parentheses indicate percentage contribution. Sanitary districts are included in rural areas.

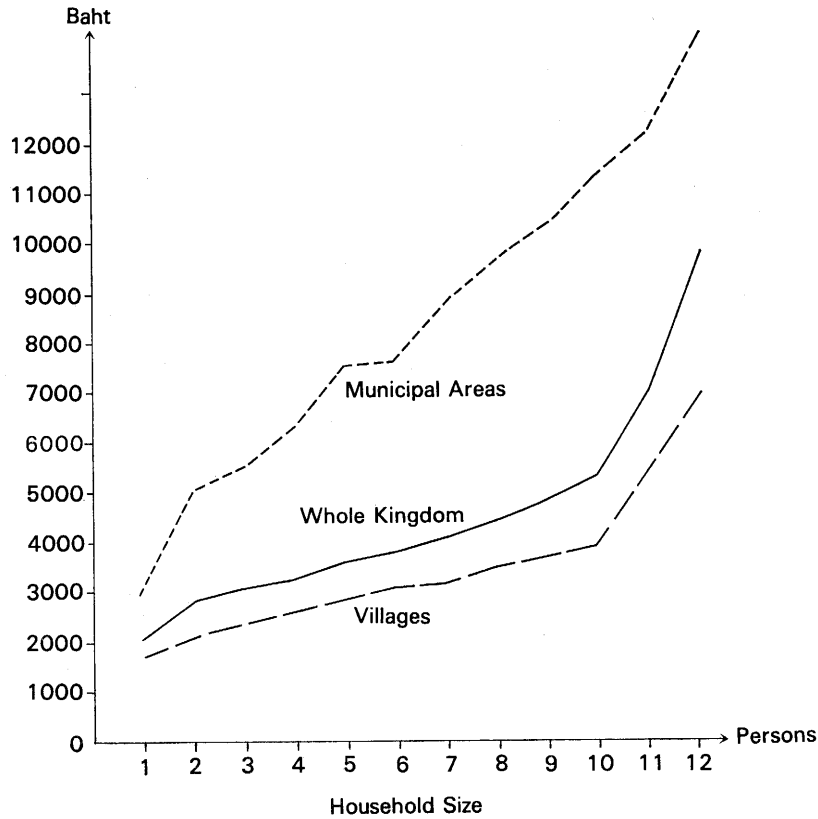

Figure 6–2
Average Income by Household Size, 1981
Source: Estimated from data tape of SES 1981.
Note: The curve for sanitary districts is omitted from this figure because it is very close to the curve for the whole kingdom.

earn enough income because of limited job opportunities. Figure 6–2 shows this clearly. This figure shows that the average household income increases as the household size enlarges both in municipal areas and villages but at a much lower rate in villages. In villages the average monthly household income is 1,700 bahts for a one-person household and increases gradually to 3,800 bahts for a ten-person household. If the marginal income of each household member is defined as the increase in household income when the household size increases by one person, marginal income in villages would be about 230 bahts up to a ten-person household. Compared with the income level of a one-person household (1,700 bahts), this marginal income is very low. Accordingly, the effect that each additional

household member has to increase household income is also small, which leads to the above conclusion that household size is not an important factor to income inequality in rural areas.[5]

On the other hand, in municipal areas this marginal income is very high, especially so in the transfer from a one-person to a two-person household. Household income increases from the 3,100 bahts of a one-person household to the 5,100 bahts of a two-person household, and so marginal income is as high as 2,000 bahts. Between a two-person and an eleven-person household the household income increases from 5,100 bahts to 12,100 bahts (marginal income is about 780 bahts). The smaller marginal income for the more-than-two-person household is caused by the larger number of children of larger households. If the additional member is a child, then marginial income will be very small. For a one or two-person household the possibility that a child is included in the household is very low (see Figure 6–3) and therefore marginal income is high. But for larger households this possibility is high, and therefore marginal income is smaller. Marginal income, however, is still large compared with rural areas and this makes the income gap between different household sizes bigger; thus, household size is an important source of income inequality in urban areas.

The difference in marginal income between rural and urban areas may be explained by the concept of underemployment. In rural areas a large

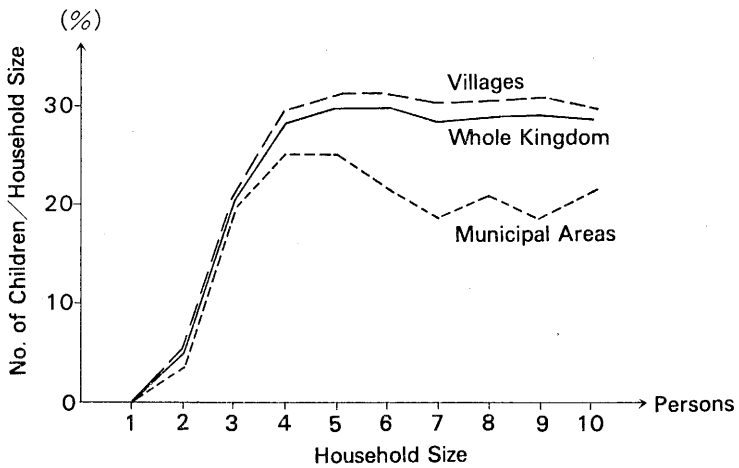

Figure 6–3
Proportion of Children by Household Size, 1981
Source: Estimated from data tape of SES 1981.
Note: The curve for sanitary districts is omitted from this figure because it is very close to the curve for the whole kingdom.

number of household members remain unpaid family workers whose marginal productivity is very low because job opportunities are limited. On the other hand, in urban areas, where job opportunities are abundant, household members need not remain unpaid family workers if their marginal productivity is low and if they can find a job with a higher wage.

Due to the difference in the marginal income between rural and urban areas, the income gap between these areas increases as the household gets bigger. The ratio of the household income of the urban area to the rural area increases from the 1.8 of a one-person household to the 3.0 of a ten-person household.

Per Capita Income and Adult-Equivalent Income

In this section household income will be compared with per capita household income and adult-equivalent income. Per capita household income is obtained by simply dividing the household income by the household size, where both children and adults are counted equally. On the other hand, adult-equivalent income differentiates children from adults since a smaller amount of consumption will be enough for a child to attain the same welfare level as an adult. The data on children which is available to the author lists the number of children less than five years old and those between five and ten years old. For the sake of simplicity we call the former younger children and the latter elder children. We need further a ratio that converts data on children into an adult-equivalent scale. The adult-equivalent ratio is borrowed from Meesook [36] in which "a child under five years of age is counted as .42 of an adult, while one who is five or more but under fifteen is counted .63 of an adult" (Meesook [36], p. 34). Though the age interval is not identical, these ratios, 42 and 63 per cent, are used for younger and elder children, respectively. Therefore, we shall say that only 42 per cent and 63 per cent of adult income is enough for a younger and elder child to attain the same welfare level as an adult.

Figure 6–3 shows the ratio of the number of children less than ten years old to household size. For one-person households there are no children and for two-person households the proportion of children is still negligible. For three-person households the proportion of children is about 20 per cent or 0.6 persons. Up to three-person households there is little difference in the proportion of children between villages and municipal areas, but for larger households the proportion of children is smaller in municipal areas. For four-person households 25 per cent, or one child, is included in urban households while 30 per cent, or 1.2 children, are included in rural households. In villages the proportion of children is constant at around 30 per

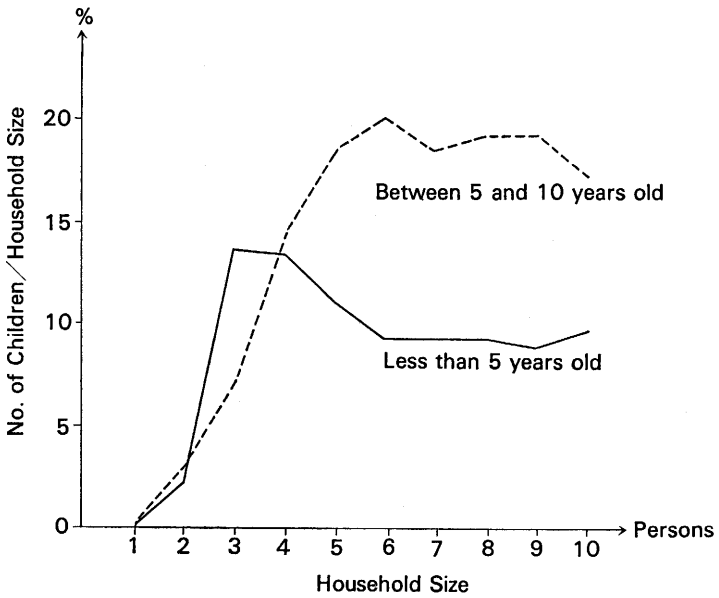

Figure 6–4
Proportion of Children by Age, 1981
Source: Estimated from data tape of SES 1981.

cent for households of more than four persons while in municipal areas it decreases from the 25 per cent of four- and five-person households to the 20 per cent of seven and more person households, which is about ten percentage points lower than in villages.

The composition of younger and elder children is shown in Figure 6–4. For three-person households the proportion of younger children is larger than elder children, but for larger households the proportion of the former is about half that of the latter. This pattern seems to correspond to the life cycle of the household; thus, as the household size enlarges because of an increasing number of children, the proportion of small children will decrease.

The implications of Figures 6–3 and 6–4 are as follows: (1) for one- and two-person households the difference between per capita income and adult-equivalent income will be negligible because the percentage of children is minimal; (2) for three- or four-person households the large proportion of younger children will increase the adult-equivalent income to a higher ratio; (3) for larger households the ratio of adult-equivalent income to per capita income will be stable due to a similar composition of children; and (4) compared with per capita income the income gap between rural

Table 6–3
Per Capita Income and Adult-Equivalent Income, 1981

Household Size	AEY/PCY			Urban-Rural Gap	
	Whole Kingdom	Urban Areas	Rural Areas	PCY	AEY
1	1.00	1.00	1.00	1.78	1.78
2	1.02	1.02	1.03	2.28	2.26
3	1.12	1.13	1.11	2.24	2.28
4	1.15	1.13	1.15	2.39	2.35
5	1.15	1.12	1.16	2.58	2.49
6	1.13	1.10	1.15	2.41	2.30
7	1.12	1.09	1.14	2.70	2.59
8	1.13	1.11	1.15	2.71	2.62

Source: Estimated from data tape of SES 1981.
Note: Sanitary districts are included in rural areas.
PCY and AEY stand for per capita income and adult-equivalent income.

and urban areas in terms of adult-equivalent income will be smaller due to the large proportion of children in rural areas. All of these implications are confirmed by Table 6–3. Though the urban-rural gap is narrower in terms of adult-equivalent income than in terms of per capita income, the difference is very small (compare the last two columns of Table 6–3).

Figure 6–5 shows the per capita household income and adult-equivalent income by household size. Contrary to the average household income (Figure 6–2) both per capita household income and adult-equivalent income decrease as the household size increases. This figure seems to show that a large household, which tends to be ranked a higher income class if ordered by household income, will be ranked a lower income class if ordered by per capita income or adult-equivalent income. But this is not the case in Thailand. One of our important results is to show that a large number of the richest households in terms of household income are still the richest in terms of per capita income and that a large number of poor households in terms of household income are still the poorest in terms of per capita incomes. This can be seen from Table 6–4. For example, in the whole kingdom, 12.8 per cent of all households belong to the richest 20 per cent in terms of both household income and per capita income, and 11.6 per cent of all households belong to the poorest 20 per cent in terms of both household income and per capita household income. The possibility that the households of the top quintile in terms of household income do not belong to the richest 40 per cent in terms of per capita income is negligible. For other income groups the possibility that a household is reclassified beyond two quintile group is minimal.

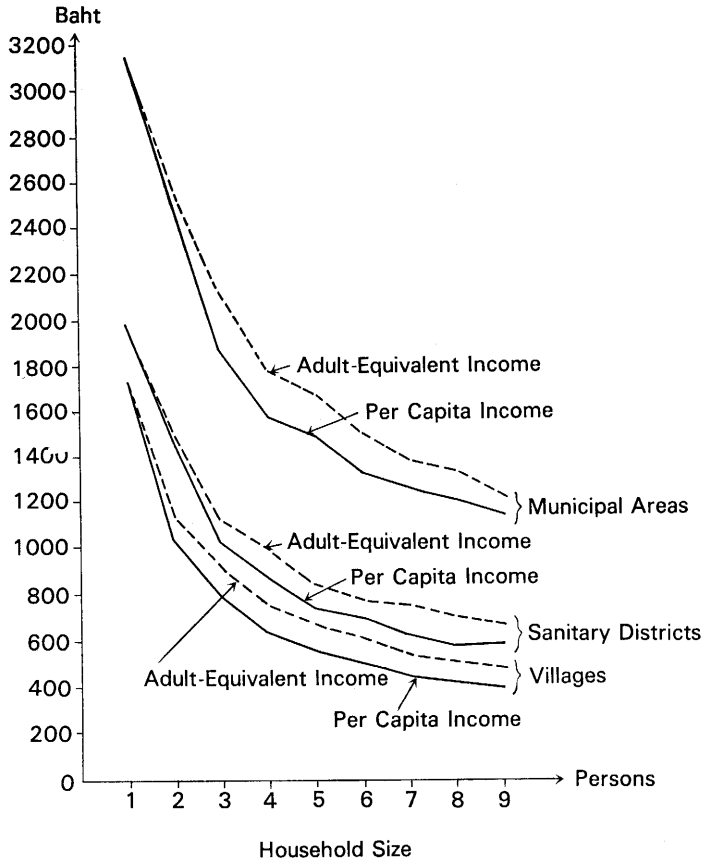

Figure 6–5
Per Capita Income and Adult-Equivalent Income by Household Size, 1981
Source: Estimated from data tape of SES 1981.

This is observed even in urban and rural areas. For example, 38 per cent of urban households belong to the top quintile of the whole kingdom regardless of whether they are ordered by household income or per capita income. The difference in the distribution of households between the two income concepts is that the urban household tends to be reclassified to a higher quintile group when it is ordered by per capita income. For example, the percentage of urban households which belong to the top quintile of the whole kingdom increases from 50 per cent in terms of household income to 54 per cent in terms of per capita income, and the percentage of urban households which belong to the bottom quintile decreases from 4.8

Table 6-4
Distribution of Household by Household Income and Per Capita Income, 1981 (%)

Quintile by Household Income	Quintile by Per Capita Household Income					
	Bottom	2nd	3rd	4th	Top	Total
A. Whole kingdom						
Bottom	11.6	4.0	2.4	1.9	0.1	20.0
2nd	6.7	6.8	3.8	1.5	1.2	20.0
3rd	1.6	7.0	6.5	3.1	1.8	20.0
4th	0.1	2.1	6.1	7.6	4.1	20.0
Top	0.0	0.1	1.2	5.9	12.8	20.0
Total	20.0	20.0	20.0	20.0	20.0	100.0
B. Urban areas						
Bottom	1.3	0.7	0.8	1.8	0.2	4.8
2nd	0.8	1.3	1.4	0.8	2.6	6.9
3rd	0.1	1.7	3.3	3.5	3.7	12.3
4th	0.0	1.2	4.5	10.2	9.3	25.7
Top	0.0	0.0	1.2	11.0	38.1	50.3
Total	2.2	4.9	11.2	27.3	54.4	100.0
C. Rural areas						
Bottom	13.8	4.7	2.7	1.9	0.1	23.2
2nd	8.0	8.0	4.3	1.6	0.9	22.3
3rd	1.9	8.0	7.2	3.1	1.4	21.6
4th	0.1	2.3	6.5	7.0	2.9	18.8
Top	0.0	0.1	1.1	5.0	7.4	13.6
Total	23.8	23.1	21.8	18.6	12.7	100.0

Source: Estimated from data tape of SES 1981.
Note: Sanitary districts are included in rural areas.
For urban and rural areas, households are classified according to the income class of the quintile of the whole kingdom.

per cent in terms of household income to 2.2 per cent. The converse is true in the rural areas. The reason for this is that in rural areas the household size is generally larger than it is in the urban area.

Since the difference between per capita household income and adult-equivalent income is not very large, the possibility that a household could be reclassified to another quintile group according to which of the two income concepts is used is very small indeed (see Table 6-5).

The effect of income concept on income inequality is shown in Table 6-6. This kind of comparison has been made by several authors. For example, Pravin Visaria calculated the Gini coefficients for five countries (India, Nepal, Sri Lanka, Taiwan, and Malaysia) and concluded that " the Gini coefficient was lower for household per capita income (expenditure)

Table 6–5
Distribution of Household by Per Capita Income and Adult-Equivalent Income, 1981 (%)

Quintile by Adult-Equivalent Income	Quintile by Per Capita Household Income					
	Bottom	2nd	3rd	4th	Top	Total
A. Whole kingdom						
Bottom	17.8	2.2	0.0	0.0	0.0	20.0
2nd	2.2	15.3	2.5	0.0	0.0	20.0
3rd	0.0	2.5	15.1	2.4	0.0	20.0
4th	0.0	0.0	2.4	16.1	1.5	20.0
Top	0.0	0.0	0.0	1.5	18.5	20.0
Total	20.0	20.0	20.0	20.0	20.0	100.0
B. Urban areas						
Bottom	2.0	0.5	0.0	0.0	0.0	2.5
2nd	0.2	3.3	0.7	0.0	0.0	4.2
3rd	0.0	1.1	8.5	2.2	0.0	11.8
4th	0.0	0.0	2.0	22.1	3.0	27.1
Top	0.0	0.0	0.0	3.0	51.4	54.4
Total	2.2	4.9	11.2	27.3	54.4	100.0
C. Rural areas						
Bottom	21.2	2.6	0.0	0.0	0.0	23.8
2nd	2.6	17.7	2.9	0.0	0.0	23.2
3rd	0.0	2.8	16.4	2.5	0.0	21.7
4th	0.0	0.0	2.5	14.9	1.2	18.6
Top	0.0	0.0	0.0	1.2	11.5	12.7
Total	23.8	23.1	21.8	18.6	12.7	100.0

Source: Estimated from data tape of SES 1981.
Note: Sanitary districts are included in rural areas.
For urban and rural areas, households are classified according to the income class of the quintile of the whole kingdom.

by individuals than for household income (expenditure)."[6] Datta and Meerman concluded that " in recent decades the US Gini coefficient for household by PCY by individuals (.390) is much larger than for household income (.359) " (Datta and Meerman [11], p. 31) and they then suggested that " if the US results are typical for a developed country, it may be that as countries develop, changes associated with increasing incomes and smaller families eventually bring a reversal from the pattern Visaria found for his five countries " (Datta and Meerman [11], p. 31).

Our conclusions support those of Visaria. The Gini coefficients for the distribution of households by household income is always higher than that for the distribution of individuals by per capita income. Thus, for the

Table 6–6
Gini Coefficient for Different Income Concepts, 1981

	Whole Kingdom	Urban Areas	Rural Areas
A. Distribution of household			
1. by HHY	0.441 (3)	0.428 (5)	0.413 (4)
2. by PCY	0.465 (5)	0.427 (4)	0.428 (5)
3. by AEY	0.449 (4)	0.417 (3)	0.411 (3)
B. Distribution of individual			
4. by PCY	0.435 (2)	0.407 (2)	0.396 (2)
5. by AEY	0.423 (1)	0.401 (1)	0.384 (1)

Source: Estimated from data tape of SES 1981.
Note: Figures in parentheses indicate rank of equality in each area.
Sanitary districts are included in rural areas.
Gini coefficients are estimated by decile method.
HHY, PCY, and AEY stand for household income, per capita income, and adult-equivalent income.

whole kingdom the former is 0.441 and the latter is 0.435, and for the urban and rural areas the former is 0.428 and 0.413 and the latter is 0.407 and 0.396. But the difference between them for the whole kingdom is not as large as it is in the U.S.A. While in the U.S.A. the difference is 0.031 points, it is only 0.006 points in Thailand.

The conclusion that the Gini coefficient for the distribution of households by household income is higher than for the distribution of individuals by per capita income can be extended to other income concepts. The Gini coefficients for distribution of households, whether it is ordered by household income, per capita income, or adult-equivalent income (rows 1, 2, and 3 in Table 6–6), are always higher than the Gini coefficients for distribution of individuals, whether they are ordered by per capita income or adult-equivalent income (rows 4 and 5 in Table 6–6).

Another finding from our results is that the Gini coefficient for adult-equivalent income is always lower than for per capita income (compare row 2 with row 3, and row 4 with row 5 in Table 6–6). This means that income distribution that does not take the number of children into consideration will always overestimate income inequality.

Number of Earners

From the welfare aspects of the household, household size and the number of children are important factors. But from the earning side of the household, the number of earners is more useful than household size. In SES 1981 earners are defined as " all economically active members of the house-

Table 6–7
Average Number of Income Earners by Decile Group, 1981 (persons)

Decile Group	Whole Kingdom	Area		
		Municipal Areas	Sanitary Districts	Villages
Bottom	1.7	1.2	1.5	1.7
2nd	2.1	1.4	2.1	2.1
3rd	2.3	1.6	2.2	2.3
4th	2.6	1.8	2.3	2.6
5th	2.6	1.8	2.3	2.7
6th	2.7	1.9	2.3	2.8
7th	2.7	2.1	2.3	2.9
8th	2.8	2.3	2.6	3.1
9th	2.8	2.5	2.8	3.2
Top	2.8	3.1	2.8	3.4
Average	2.5	2.0	2.3	2.7

Source: Estimated from data tape of SES 1981.

hold (self-employed, employees, and unpaid family workers)" (NSO [64], p. 5).

Table 6–7 shows the average number of earners by decile group. Like the household size, the average number of earners increases according to the income level. For the whole kingdom the average number of earners of the top decile is 2.8 persons, which is about 1.7 times as many as the bottom decile. This ratio is 2.6 in municipal areas and 1.9 and 2.0 in sanitary districts and villages. This indicates that the number of earners is an important factor in raising household income and income inequality in municipal areas.

As the household size is smaller in municipal areas than in rural ones, the average number of earners is only 2.0 persons in municipal areas, less than the 2.7 persons in villages. As one-person households are characteristic of municipal areas, one-income-earner households are also characteristic of municipal areas and contribute to reduce the average number of earners. In municipal areas the percentage of households with only one earner is as high as 37 per cent, whereas it is only 13 per cent in villages (see Figure 6–6). The large share of one-income-earner households in municipal areas partly corresponds to the large share of one-person households. But this is not enough to explain the smaller number of earners in municipal areas. In general, the proportion of earners in the household is smaller in the urban area. When compared with other households of the same size, it can be seen that the number of earners is smaller

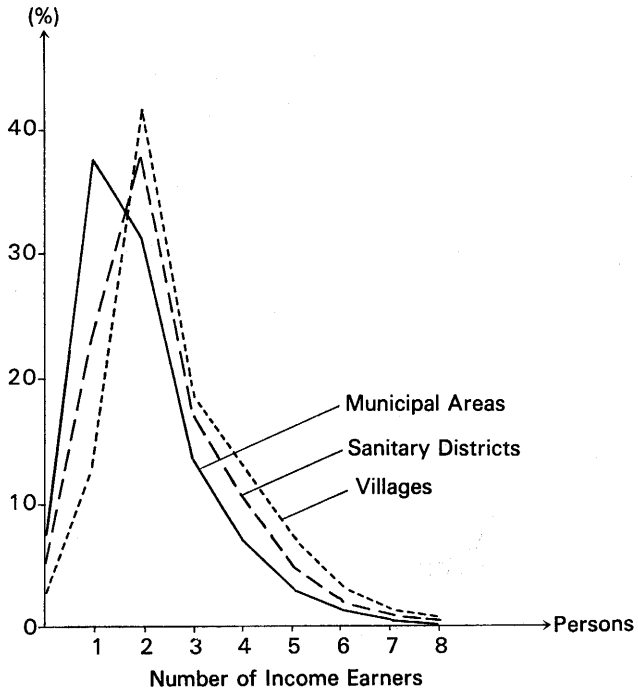

Figure 6–6
Distribution of Households by Number of Income Earners, 1981
Source: Estimated from data tape of SES 1981.

in municipal areas except for one-person households (see Figure 6–7). As mentioned above, the proportion of children in the household is larger in villages. But this does not directly indicate a smaller proportion of earners in rural areas. The fact that household members can easily be employed as unpaid family workers in the rural area seems to work to increase the proportion of earners in villages.

The marginal income of household members was defined above as the amount equivalent to the increase in household income when the household size increases by one person. The marginal income in this definition is related to the welfare or consumption side of household income and indicates how much additional income becomes available to the household when the household size increases by one person. On the other hand, the marginal income of the earner, which is defined as the increase in household income when the number of earners increases by one person, is related to the production or earning side of household income, that is, it indicates how much an additional earner can earn.

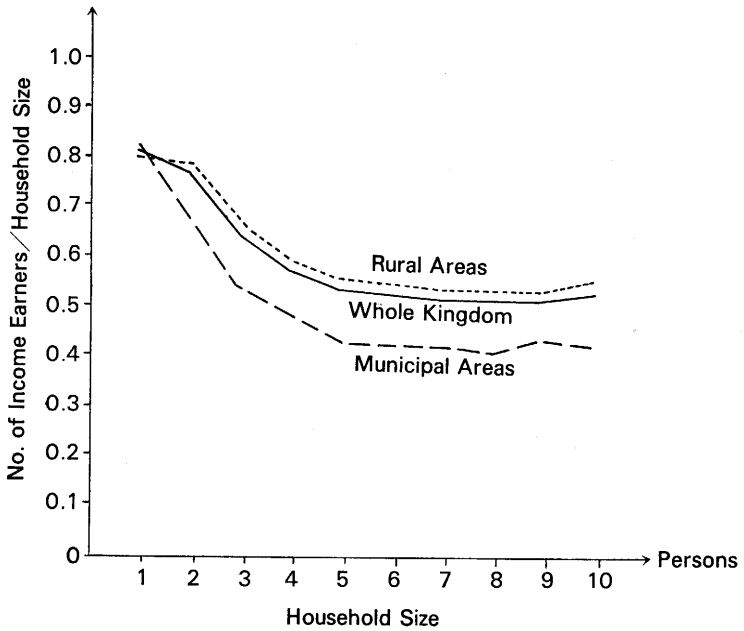

Figure 6–7
Proportion of Income Earners by Household Size, 1981
Source: Estimated from data tape of SES 1981.
Note: Sanitary districts are included in rural areas.

Figure 6–8 shows the average household income by the number of earners, and the slope of the curve indicates the marginal income of each earner. This figure is similar to the average household income by household size (Figure 6–2), that is, the curve for municipal areas is higher and steeper than for villages. In municipal areas the average household income increases from 4,600 bahts for one earner to 13,200 bahts for six earners, the marginal income being about 1,720 bahts between one and six earners. On the other hand, in villages the average household income increases little between zero and two earners, and marginal income is negligible. Between two and seven earners the average household income increases from 2,200 to 4,600 bahts, and the marginal income is about 480 bahts, which is less than one-third the amount of municipal areas. The reason for this low marginal income would be the same as mentioned in the case of household size, that is, the lack of job opportunities in rural areas.

In comparing the marginal income of the household member to that of the earner, the latter is about twice as large as the former, which can be expected from the proportion of earners in the household (Figure 6–7).

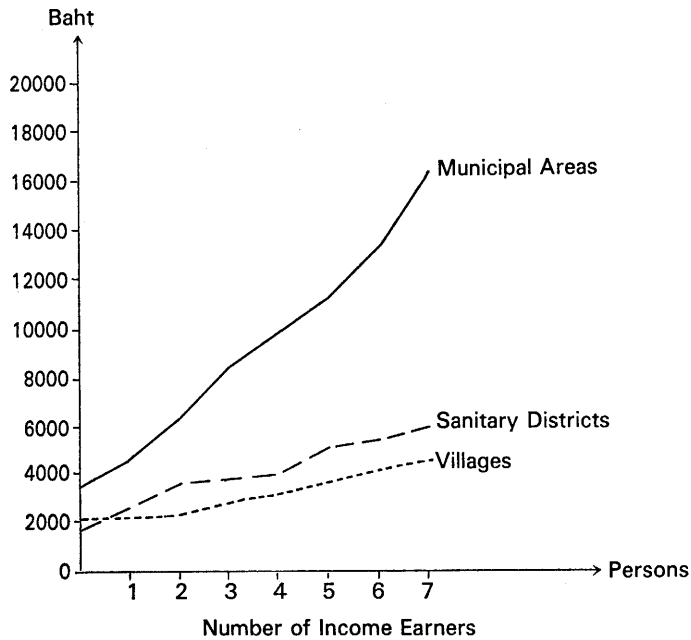

Figure 6–8
Average Household Income by Number of Income Earners, 1981
Source: Estimated from data tape of SES 1981.

Table 6–8
Decomposition of Theil Index by Number of Income Earners, 1981

	Whole Kingdom	Municipal Areas	Rural Areas
Theil index	0.335	0.308	0.290
Within-component	0.319 (95.4)	0.254 (82.4)	0.270 (93.1)
Between-component	0.015 (4.6)	0.054 (17.6)	0.020 (6.9)

Source: The author's estimate.
Note: Figures in parentheses indicate percentage contribution.
Sanitary districts are included in rural areas.

As is the case for household size, the number of earners is an important factor in income inequality in urban areas but not so in rural areas, which is confirmed by the decomposition analysis of the Theil index (Table 6–8). The between-component is nearly the same level as the decomposition by household size (Table 6–2).

Income Receivers

Income receivers are defined as " members [of the household] who receive money income from any source (profits, wages and salaries, rents or transfer payments) " (NSO [64], p. 5). " Profits from family enterprises employing unpaid family workers were assigned to the household head or to the operator of the enterprise if he [or she] could be identified. Family workers, therefore, were not included as income receivers, and persons receiving only rental income or assistance payment were not counted as earners " (NSO [64], pp. 5–6). The relation between income receivers and earners is shown in Figure 6–9.

In the previous section, we considered the number of earners to reflect the production or earning side of household income and therefore to explain income inequality fairly well. In this respect the number of income receivers is less suitable because it neglects the unpaid family worker. This point is confirmed by the decomposition of the Theil index. The number of earners is an important factor of income inequality, especially for urban areas where 18 per cent of income inequality is accounted for by the number of earners (Table 6–8), whereas the number of income receivers accounts for only 9.3 per cent of income inequality even in municipal areas (Table 6–9). Though the between-component of income receivers for the whole kingdom is larger than that of earners, it is still only 6 per cent. Thus as a factor of income inequality the number of earners proves to be more useful than the number of income receivers.

Table 6–10 shows the distribution of households by the number of income receivers and earners. From this table it can be said that those households in which the number of income receivers exceeds the number of earners are very rare; for a considerable proportion of households the number of earners exceeds the number of income receivers, especially in the rural areas. The latter case roughly corresponds to those households

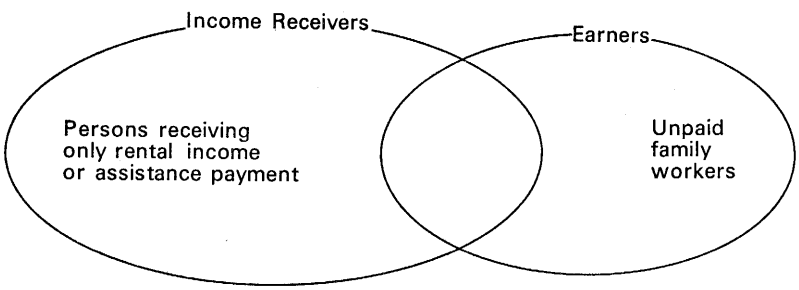

Figure 6–9
Relationship between Income Receivers and Earners

Table 6-9
Decomposition of Theil Index by Number of Income Receivers, 1981

	Whole Kingdom	Municipal Areas	Rural Areas
Theil index	0.335	0.308	0.290
Within-component	0.316 (94.4)	0.279 (90.7)	0.278 (96.0)
Between-component	0.019 (5.6)	0.029 (9.3)	0.012 (4.0)

Source: The author's estimate.
Note: Figures in parentheses indicate percentage contribution.
Sanitary districts are included in rural areas.

Table 6-10
Distribution of Households by Number of Income Earners and Income Receivers, 1981 (%)

Number of Income Receivers	Nnmber of Earners							
	0	1	2	3	4	5	6-	Total
A. Whole kingdom								
1	2.6	15.4	18.9	6.4	4.8	2.2	1.3	51.6
2	0.3	2.3	17.7	5.2	2.7	1.3	0.9	30.4
3	0.1	0.3	2.0	4.8	2.0	1.0	0.5	10.7
4	0.0	0.1	0.7	0.6	2.0	1.1	0.5	5.0
5	0.0	0.0	0.2	0.3	0.3	0.4	0.3	1.5
6	0.0	0.0	0.1	0.1	0.1	0.1	0.4	0.8
Total	3.0	18.1	39.6	17.4	11.9	6.1	3.9	100.0
B. Urban areas								
1	4.3	30.2	7.0	2.4	1.3	0.4	0.5	46.1
2	0.9	5.7	21.3	3.4	1.5	0.7	0.5	34.0
3	0.2	0.8	2.6	6.7	1.4	0.5	0.3	12.5
4	0.0	0.4	0.6	1.0	2.1	0.5	0.2	4.8
5	0.1	0.2	0.2	0.2	0.5	0.6	0.1	1.9
6	0.0	0.0	0.1	0.0	0.0	0.2	0.4	0.7
Total	5.5	37.3	31.8	13.7	6.8	2.9	2.0	100.0
C. Rural areas								
1	2.3	12.2	21.4	7.2	5.5	2.6	1.3	52.5
2	0.2	1.7	16.9	5.6	2.9	1.5	0.9	29.7
3	0.0	0.3	1.8	4.4	2.2	1.1	0.5	10.3
4	0.0	0.1	0.8	0.5	2.0	1.3	0.5	5.2
5	0.0	0.0	0.2	0.3	0.3	0.4	0.3	1.5
6	0.0	0.0	0.1	0.2	0.0	0.1	0.4	0.8
Total	2.5	14.3	41.2	18.2	12.9	7.0	3.9	100.0

Source: Estimated from data tape of SES 1981.
Note: Sanitary districts are included in rural areas.

with unpaid family workers. Though those who are earners but not income receivers are not necessarily unpaid family workers, the number of unpaid family workers could be approximately defined as the number of earners minus the number of income receivers because the number of persons who receive only rental income or assistance payment is small. Based on this definition, we can estimate the marginal income of income receivers and unpaid family workers. To do so, those cells of Table 6–10 where the number of income receivers exceeds the number of earners are neglected. With data of other cells the following equation is estimated:

$$Y = a + b \cdot R + c \cdot U,$$

where Y is the average household income, R is the number of income receivers, U is the number of unpaid family workers (which is defined as the number of earners minus the number of income receivers), and a, b, c are coefficients to be estimated.

This equation is estimated by OLS and the results are as follows:

A. Whole Kingdom

$$Y = \underset{}{1{,}678} + \underset{(3.58)}{882}R + \underset{(6.39)}{208}U. \qquad \underset{(1.51)}{}$$
$$\bar{R}^2 = 0.753 \qquad F \text{ value} = 22.3$$

B. Urban area

$$Y = \underset{}{2{,}996} + \underset{(2.06)}{1{,}831}R + \underset{(4.27)}{1{,}381}U. \qquad \underset{(3.22)}{}$$
$$\bar{R}^2 = 0.560 \qquad F \text{ value} = 9.89$$

C. Rural area

$$Y = \underset{}{1{,}285} + \underset{(5.55)}{654}R + \underset{(9.59)}{362}U. \qquad \underset{(5.30)}{}$$
$$\bar{R}^2 = 0.866 \qquad F \text{ value} = 46.1$$

The t-value shown in parentheses indicates that all coefficients are significant at the 1 per cent level except for the coefficient of unpaid family workers for the whole kingdom. The coefficients of R and U can be interpreted as the marginal income of income receivers and unpaid family workers. The result shows that in any case the marginal income of income receivers is larger than that of unpaid family workers.

Age of Household Head

In this section we will examine how household income is affected by the age of the household head. Figure 6–10 shows the average household in-

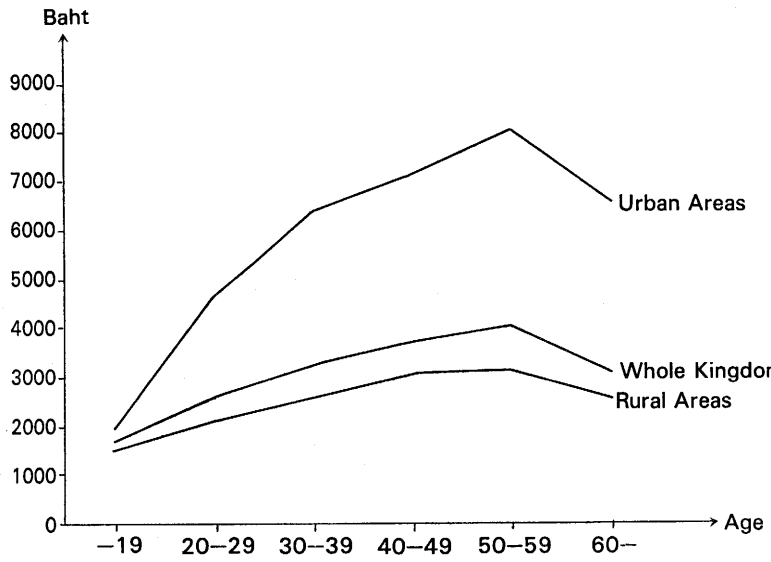

Figure 6–10
Average Household Income by Age of Household Head, 1981
Source: Estimated from data tape of SES 1981.
Note: Sanitary districts are included in rural areas.

come by age of household head. Not only in the whole kingdom but also in urban and rural areas the average household income increases as the household head becomes older until the household head reaches age fifty to fifty-nine and thereafter decreases. The increase is steeper for the urban area than for the rural area. As for the household head who is less than twenty years old, the difference in average household income between rural and urban areas is very small; the ratio between them is about 3: 4. This seems to suggest that the high mobility between rural and urban areas for the younger generation reduces the income gap between those areas, but more evidence is necessary before this hypothesis can be established.

This increase in household income according to age, which may be called the life-cycle effect, is larger in the urban areas than in the rural ones. The average household income for the age group of fifty to fifty-nine years is four times as high as that of the less-than-twenty-year-old age group in urban areas, and the ratio is only two times as high in rural areas. Therefore, the income gap between rural and urban areas for the age group of fifty to fifty-nine years old reaches 1: 2.5. This indicates the importance of age in income inequality for the urban area but not for rural areas. In terms of the Theil index, 7.8 per cent of income inequality in the urban area is caused by the income gap between age groups (see Table 6–11).

This percentage is less than half of the case of household size and number of earners and slightly lower than the case of income receivers. In rural areas the percentage decreases further to 3.6 per cent, which is almost negligible.

As mentioned above, the average household income begins to decrease when the household head becomes over sixty years old. Households of this sixty-plus age group tend to concentrate in both the lowest and highest income classes. Figure 6–11 shows the distribution of households by decile group for each age group.[7] The curves show clearly that the peak of the curve moves from the bottom to top decile gradually as the age level increases up to fifty to fifty-nine. But for the age group of more than sixty years old the peak is found at both the bottom and top deciles. This means that as the household head becomes older than sixty some households remain rich but some become extremely poor.

Household size tends to increase as the head of the household becomes older, though only up to a certain level of age (see Table 6–12). For the whole kingdom the average household size increases from 1.8 persons for the less than twenty years old age group to the 5.4 persons for the forty-to-

Table 6–11
Decomposition of Theil Index by Age Group, 1981

	Whole Kingdom	Municipal Areas	Rural Areas
Theil index	0.335	0.308	0.290
Within-component	0.324 (96.9)	0.284 (92.2)	0.280 (96.4)
Between-component	0.010 (3.1)	0.024 (7.8)	0.010 (3.6)

Source: The author's estimate.
Note: Figures in parentheses indicate percentage contribution.
Sanitary districts are included in rural areas.
Age group is the same as shown in Figure 6–10.

Table 6–12
Average Household Size by Age of Head, 1981 (persons)

Age Group	Whole Kingdom	Urban Areas	Rural Areas
-19	1.8	1.5	2.1
20–29	3.3	2.8	3.4
30–39	4.6	4.1	4.8
40–49	5.4	5.0	5.5
50–59	4.9	5.0	4.9
60–	4.0	4.2	3.9

Source: Estimated from data tape of SES 1981.
Note: Sanitary districts are included in rural areas.

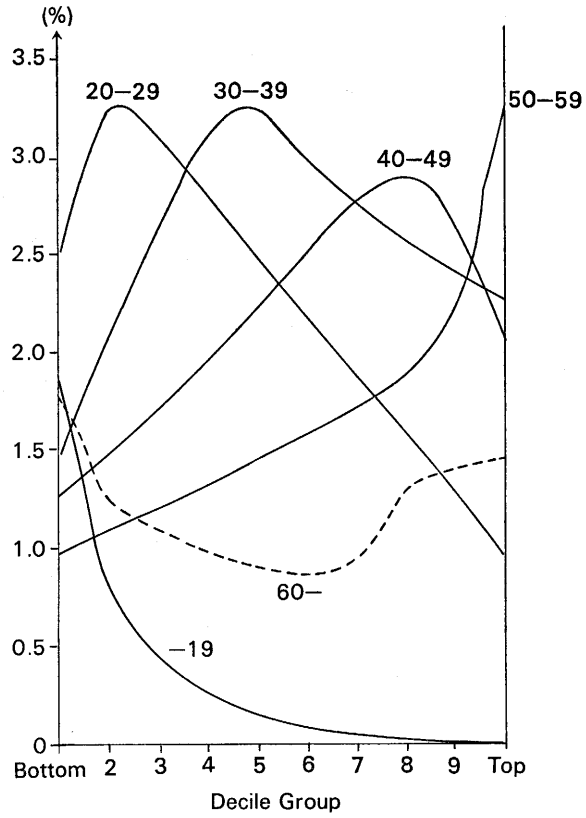

Figure 6–11
Distribution of Municipal Area Households by Age of Household Head and Decile Group, 1981
Source: Estimated from data tape of SES 1981.
Note: Smoothed curve is fitted to the actual data.

forty-nine-year-old age group and then decreases to 4.0 persons for the more-than-sixty-year-old age group. Therefore, the increase in household income according to age accompanies an increase in household size up to forty to forty-nine years old. After eliminating this effect of household size by using per capita household income instead of household income, as is done in the section of household size, there remains little income gap between the age groups. Figure 6–12 shows that per capita income remains within a narrow band of income irrespective of the age group for the whole kingdom and in each area. Due to the large household size, per capita income for the forty-to-forty-nine-year-old age group is relatively low.

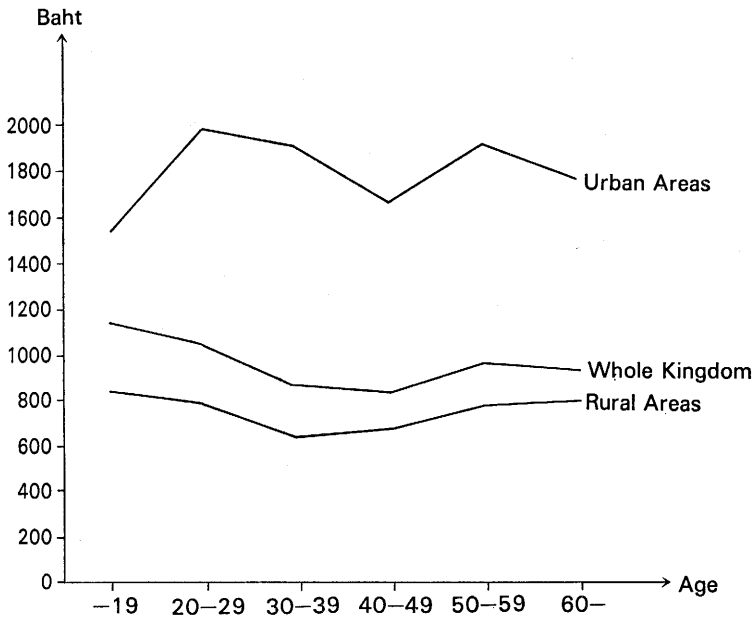

Figure 6–12
Average Per Capita Household Income by Age of Household Head, 1981

Source: Estimated from data tape of SES 1981.
Note: Sanitary districts are included in rural areas.

Education

In this section households are classified according to the level of education of the household head. The level of education is divided as follows:

(1) no formal education (including kindergarten),
(2) elementary school (seven grades),
(3) secondary school (six grades),
(4) vocational school (including technical school),
(5) university (including higher education), and
(6) not reported.

What is characteristic of Thailand is that the proportion of those who continue to go to school higher than elementary school is very small. Though the percentage of school attendance is more than 90 per cent at the elementary level, records from as late a date as 1984 note it decreases sharply to 40 per cent at grade one of secondary school. The distribution of household by the level of education of the household head is shown in Table 6–13. In the whole kingdom 17 per cent of household heads have no

Table 6-13
Distribution of Household by the Level of Education of the Household Head, 1981

Level of Education	Whole Kingdom	Urban Areas	Rural Areas
No formal education	17.4	15.4	17.9
Elementary school	71.5	51.1	75.8
Secondary school	6.0	17.8	3.5
Vocational school	3.4	9.8	2.0
University	1.4	5.7	0.5
Not reported	0.3	0.2	0.3
Total	100.0	100.0	100.0

Source: Estimated from data tape of SES 1981.
Note: Sanitary districts are included in rural areas.

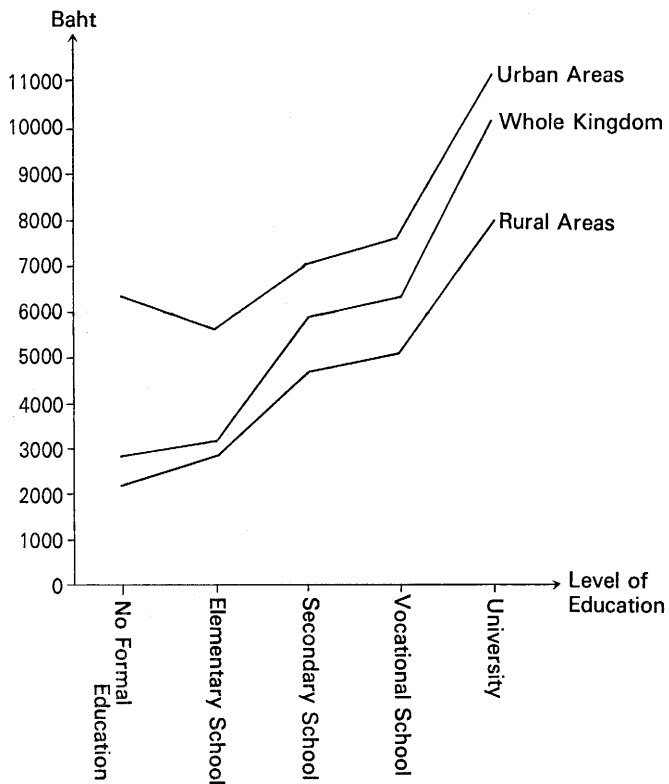

Figure 6-13
Average Household Income by Level of Education of Household Head, 1981

Source: Estimated from data tape of SES 1981.
Note: Sanitary districts are included in rural areas.

formal education and 71 per cent finished only elementary school. No more than 11 per cent finished any education higher than elementary school.[8] This situation is the same in the rural areas. In the urban areas the situation is a little bit better than the rural areas, since one-third of the household heads finish education higher than elementary school. But this figure is still very low compared with the levels achieved by other middle-income countries.

Figure 6–13 and Table 6–14 show how household income increases as the level of education of the household head becomes higher. The level of education for the whole kingdom and rural areas can be divided into three groups according to their income levels. The first group is that of no formal education and elementary school, the second is that of secondary school and vocational school, and the last is that of university. The income level of the first group is about 50 or 60 per cent of that of the second group, which is also about 60 per cent of that of the last group. On the other hand, in the urban area the income gap between the first and second group is very small. The income level of the secondary school group is only ten percentage points higher than that of " no formal education." This rather curious result is caused by the ignorance of the age profile of the household head. In the past, when education was not widespread, people could earn a high income even if they were not educated at school. The older generation in 1981 consisted of these people, which contributed to raise the income level of the " no formal education " group and made the level of edu-

Table 6–14
Average Household Income by Level of Education of Household Head, 1981

Level of Education	Whole Kingdom	Urban Areas 1	Rural Areas 2	Ratio 2/1
No formal education	2,791	6,275	2,144	0.34
Elementary school	3,108	5,536	2,762	0.50
Secondary school	5,845	6,956	4,634	0.67
Vocational school	6,262	7,502	5,005	0.67
University	10,118	11,068	7,854	0.71
Elementary school=100				
No formal education	89.8	113.3	77.6	
Elementary school	100.0	100.0	100.0	
Secondary school	188.1	125.7	167.8	
Vocational school	201.5	135.5	181.2	
University	325.5	199.9	284.4	

Source: Estimated from data tape of SES 1981.
Note: Sanitary districts are included in rural areas.

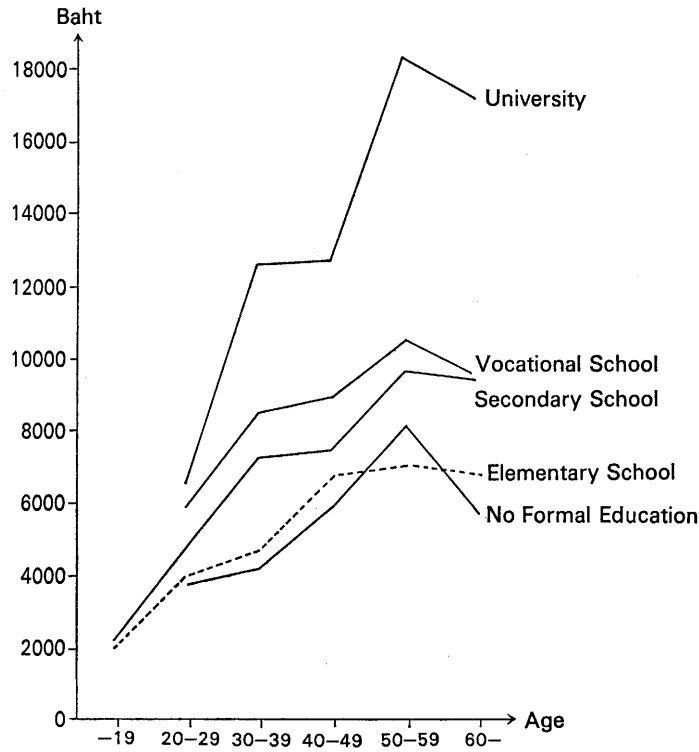

Figure 6–14
Average Municipal Area Household Income by Level of Education and Age, 1981
Source: Estimated from data tape of SES 1981.

cation a less important factor of income inequality. Figure 6–14 confirms this. The income level of "no formal education" increases sharply for the age groups of forty to forty-nine and fifty to fifty-nine.

The income gap between "no formal education" and "elementary school" is very small for each age group, which shows that elementary school contributes little in increasing income level. On the other hand, higher education does help to raise income level. This pattern can be observed even in the rural areas (see Figure 6–15).

At the end of this section the results of the decomposition analysis of the Theil index are presented (see Table 6–15). As mentioned above, the level of education is not an important factor of income inequality in the urban area, where it accounts for only 6.3 per cent of income inequality. Similarly in the rural areas it accounts for only 7.7 per cent, though the

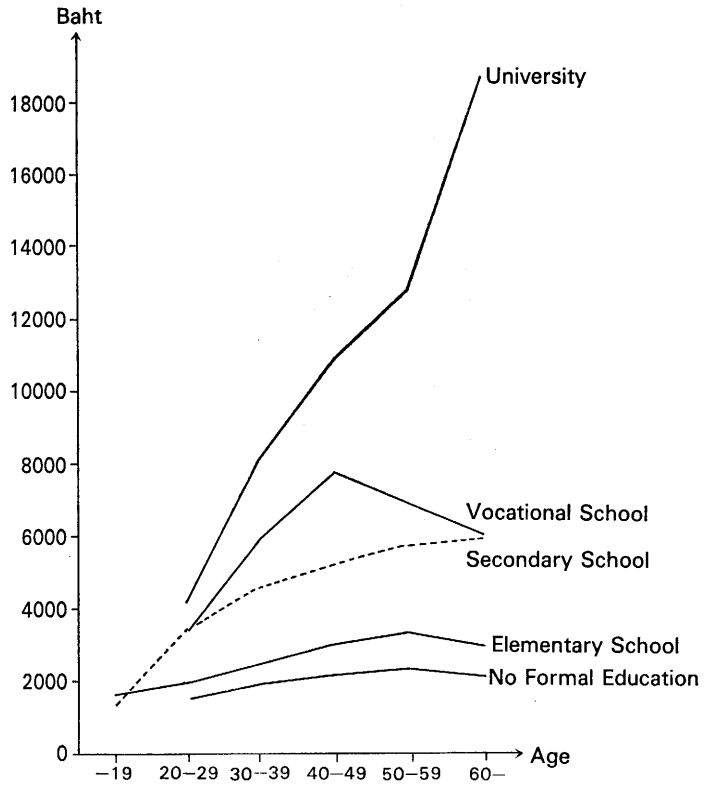

Figure 6–15
Average Rural Area Household Income by Level of Education and Age, 1981

Source: Estimated from data tape of SES 1981.
Note: Sanitary districts are included in rural areas.

Table 6–15
Decomposition of Theil Index by Level of Education, 1981

	Whole Kingdom	Municipal Areas	Rural Areas
Theil index	0.335	0.308	0.290
Within-component	0.289 (86.3)	0.289 (93.7)	0.268 (92.3)
Between-component	0.046 (13.7)	0.019 (6.3)	0.022 (7.7)

Source: The author's estimate.
Note: Figures in parentheses indicate percentage contribution.
Sanitary districts are included in rural areas.

average household income differs to some extent among the different levels of education.[9] The reason for this is that in the rural areas more than 90 per cent of households belong to classes of "no formal education" or "elementary school."[10] Contrary to the urban and rural areas, for the whole kingdom the level of education is an important factor, accounting for 14 per cent of income inequality. This partly reflects the rural-urban gap, that is, the lower level of education is dominated by the rural areas on the one hand, and higher levels of education are dominated by the urban area on the other.

Socio-Economic Class

As the last item of among the socio-economic characteristics we will take up the socio-economic class of the household. The determination of this class is "based on the main source of the livelihood, status, kind of economic activity and occupation" (NSO [64], p. 10) of the household. Therefore, the socio-economic classification is not necessarily related to the household head and does not exclude the possibility that some household member is performing socio-economic activities that set him or her apart from the socio-economic class of the household.

In this section all households are classified into nineteen categories of socio-economic class.

A. Farm operators, mainly owning land
    1. less than 2 rai
    2. 2 to 4 rai
    3. 5 to 9 rai
    4. 10 to 19 rai
    5. 20 to 39 rai
    6. 40 rai or more
B. Farm operators, mainly renting land
    1. less than 5 rai
    2. 5 to 19 rai
    3. 20 rai or more
C. Fishing, forestry, etc.
D. Entrepreneurs, trade and industry
    1. With paid workers
    2. Without paid workers
E. Professionals, technical, and managerial
F. Laborers
    1. Farm workers
    2. General workers

Table 6–16
Agricultural Socio-Economic Class in Rural Areas

	Distribution of Household (%)	Household Income (Baht)	Household Income Average=100
A. Farm operators, mainly owning land			
1. less than 2 rai	0.7	1,659	65
2. 2 to 4 rai	4.3	1,457	57
3. 5 to 9 rai	9.9	1,808	70
4. 10 to 19 rai	16.3	2,125	83
5. 20 to 39 rai	14.2	2,908	113
6. 40 rai or more	6.6	4,788	187
B. Farm operators, mainly renting land			
1. less than 5 rai	0.7	1,804	70
2. 5 to 19 rai	4.0	1,902	74
3. 20 rai or more	3.7	3,455	135
C. Fishing, forestry, etc.	2.0	2,762	108
Agricultural sector (A+B+C)	62.2	2,565	100

Source: Estimated from data tape of SES 1981.
Note: Sanitary districts are included in rural areas.
Rai is a measure of area in Thailand and is equal to 1,600 square meters.
The column of distribution of household indicates the percentage share of the rural household, both agricultural and non-agricultural.

3. Clerical, sales, and service workers
4. Production and construction workers

G. Economically inactive households
1. Receiving assistance or pensions
2. Receiving property income

Since the share of farm operators, both mainly owning land and mainly renting land, and fishing, forestry, etc., which will together be called the agricultural sector in this section, is negligible in the urban area, we will take up these classes in the rural areas first.

This agricultural sector accounts for 62 per cent of rural households (see Table 6–16), or 52 per cent of all households of the whole kingdom. We might have expected this figure to be lower, keeping in mind the share of agriculture in employment (see Table 3–9). Even if we add to this the share of farm workers (6.3 per cent), it increases to a mere 57 per cent, which is still lower than the share of agriculture in employment.

Those mainly owning land account for 86 per cent of all farm operators, and 77 per cent of all farm operators including farm workers. This figure indicates that tenancy is not widespread in Thailand as mentioned in chapter 5. As for farm operators mainly owning land, the average income does

not differ much so long as the land area owned is nine rai or less. Similarly for those mainly renting land, average income does not differ if the land area rented is nineteen rai or less. Both of these groups and the farm workers and general workers, who will be taken up later, have a similar level of income. This level is only 60 or 70 per cent of the average of the agricultural sector. These groups together constitute the poorest group in Thailand.

On the other hand, farm operators mainly owning land of 20 rai or more account for about 4 per cent of the top decile in the rural area but they account for only 1 per cent of this decile in the whole kingdom.

As for the non-agricultural sector, the average household income and distribution of household are shown in Tables 6–17 and 6–18. Among the non-agricultural classes, the richest are the entrepreneurs with paid workers and then the professional, technical, and managerial workers. The average income of the entrepreneurs without paid workers is similar to that of clerical, sales, and service workers. On the other hand, the poorest people are farm and general workers. This is true in rural areas but in the urban area farm workers are negligible. Rather than farm workers,

Table 6–17
Average Household Income by Socio-Economic Class in the Non-agricultural Sector

	Whole Kingdom	Urban Areas 1	Rural Areas 2	Ratio 1/2	Farm Workers=100	
					Urban	Rural
D. Entrepreneurs, trade and industry						
1. With paid workers	11,091	13,027	7,322	1.78	452	424
2. Without paid workers	4,330	5,996	3,305	1.81	208	192
E. Professional, technical, and managerial	6,967	9,159	5,340	1.72	318	309
F. Laborers						
1. Farm workers	1,760	2,880	1,726	1.67	100	100
2. General workers	2,093	2,830	1,936	1.46	98	112
3. Clerical, sales, and service workers	4,833	5,582	3,607	1.55	194	209
4. Production and construction workers	3,489	4,264	3,111	1.37	148	180
G. Economically inactive households						
1. Receiving assistance or pensions	3,267	4,806	2,762	1.74	167	160
2. Receiving property income	4,303	7,871	3,542	2.22	273	205

Source: Estimated from data tape of SES 1981.
Note: Sanitary districts are included in rural areas.

Table 6–18
Distribution of Non-agricultural Households (%)

	Whole Kingdom	Urban Areas	Rural Areas
D. Enterpreneurs, trade and industry			
1. With paid workers	2.1	8.0	0.9
2. Without paid workers	10.8	23.5	8.1
E. Professionals, technical, and managerial	5.0	12.2	3.5
F. Laborers			
1. Farm workers	6.3	1.1	7.4
2. General workers	1.7	1.7	1.7
3. Clerical, sales, and service workers	8.0	28.5	3.7
4. Production and construction workers	7.8	14.7	6.3
G. Economically inactive households			
1. Receiving assistance or pensions	5.4	7.6	4.9
2. Receiving property income	1.4	1.4	1.4
Total	48.4	98.6	37.8

Source: Estimated from data tape of SES 1981.
Note: Sanitary districts are included in rural areas.
The distribution of households indicates the percentage share in all households, both agricultural and non-agricultural, in each area.

in the urban area clerical, sales, and service workers as well as production and construction workers and entrepreneurs without paid workers constitute the poor. Those economically inactive households which receive assistance payments or pensions are another important group of the urban poor.

An interesting conclusion of Table 6–17 is that the income structure is similar between the rural and urban areas. The income ratio of urban to rural households for each socio-economic class ranges between 1.6: 1 and 1.8: 1 except for a few classes. In other words the household income of a socio-economic class in the urban area is higher than that of the same class in the rural one by between sixty and eighty percentage points. As a result, the structure of household income which is shown in the last two columns of Table 6–17 is similar in both urban and rural areas. An important difference is that the income level of production and construction workers in rural areas is relatively higher than the income structure of the urban area indicates.[11]

Finally, the result of the decomposition analysis of the Theil index is shown in Table 6–19. The between-component by the socio-economic class is the highest among all for the decomposition analysis of this study. The socio-economic class accounts for one-third of the income inequality of the whole kingdom and about one-fifth in rural and urban areas. The

Table 6-19
Decomposition of Theil Index by Socio-Economic Class, 1981

	Whole Kingdom	Municipal Areas	Rural Areas
Theil index	0.335	0.308	0.290
Within-component	0.220 (65.7)	0.244 (79.2)	0.223 (77.1)
Between-component	0.115 (34.3)	0.064 (20.8)	0.067 (22.9)

Source: The author's estimate.
Note: Figures in parentheses indicate percentage contribution.
Sanitary districts are included in rural areas.

reason the percentage contribution of the whole kingdom is higher than that of rural and urban areas is that the rural and urban gap is incorporated in the whole kingdom whereas within the rural and urban areas the rural-urban gap is of course negligible by definition.